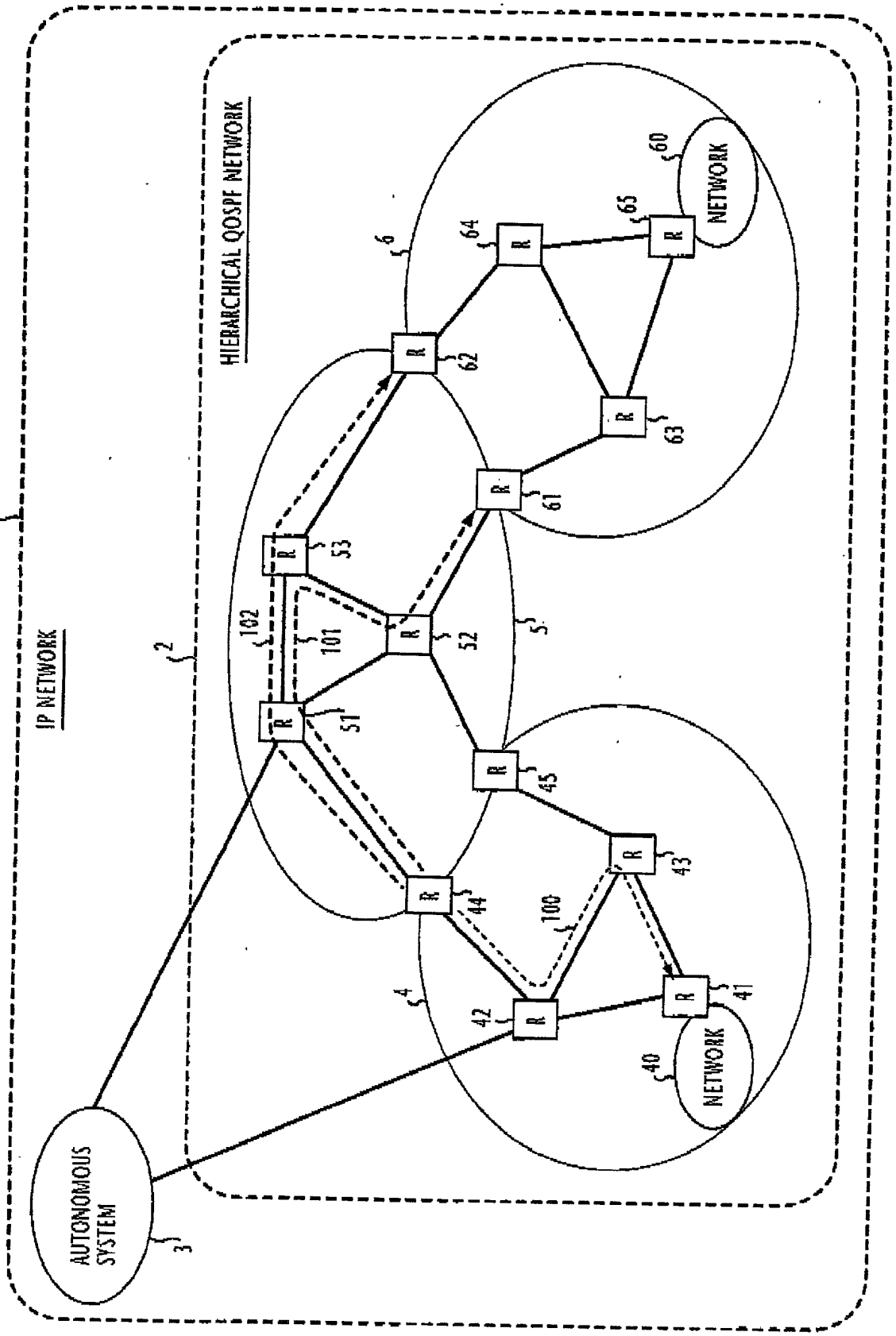
FIG. 1



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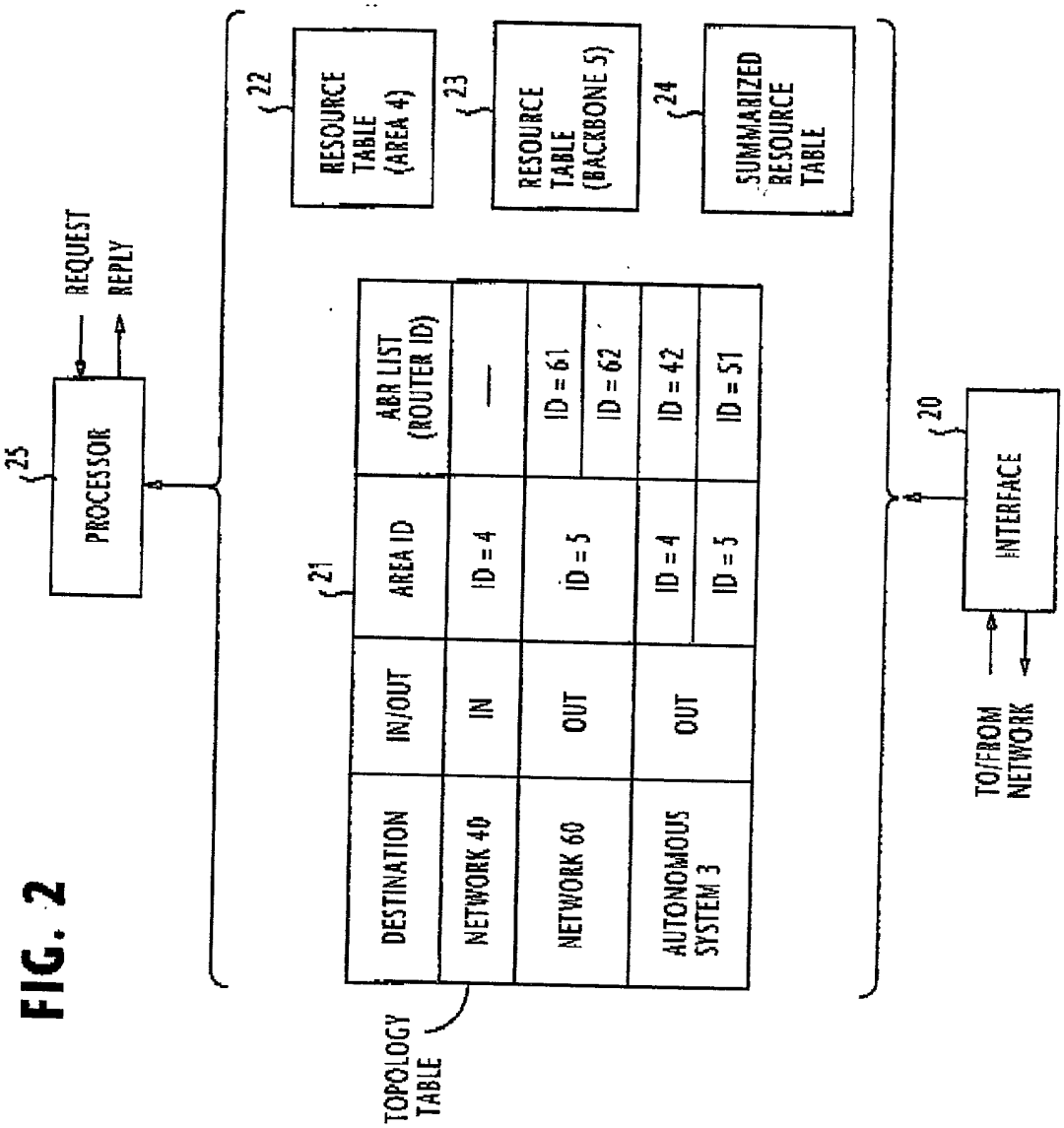

FIG. 2

FIG. 3A

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RESOURCE TABLE (AREA 4)

OUTGOING \ INCOMING	ROUTER 41	ROUTER 42	ROUTER 43	ROUTER 44	ROUTER 45
ROUTER 41	—	20	20	—	—
ROUTER 42	5	—	20	20	—
ROUTER 43	20	20	—	—	20
ROUTER 44	—	20	—	—	—
ROUTER 45	—	—	20	—	—

(Mbps)

FIG. 3B

23

RESOURCE TABLE (BACKBONE 5)

OUTGOING \ INCOMING	R44	R45	R51	R52	R53	R54	R55
ROUTER 44	—	—	20	—	—	—	—
ROUTER 45	—	—	—	20	—	—	—
ROUTER 51	20	—	—	10	20	—	—
ROUTER 52	—	20	20	—	10	20	—
ROUTER 53	—	—	20	20	—	—	20
ROUTER 54	—	—	—	20	—	—	—
ROUTER 55	—	—	—	—	20	—	—

(Mbps)

FIG. 3C

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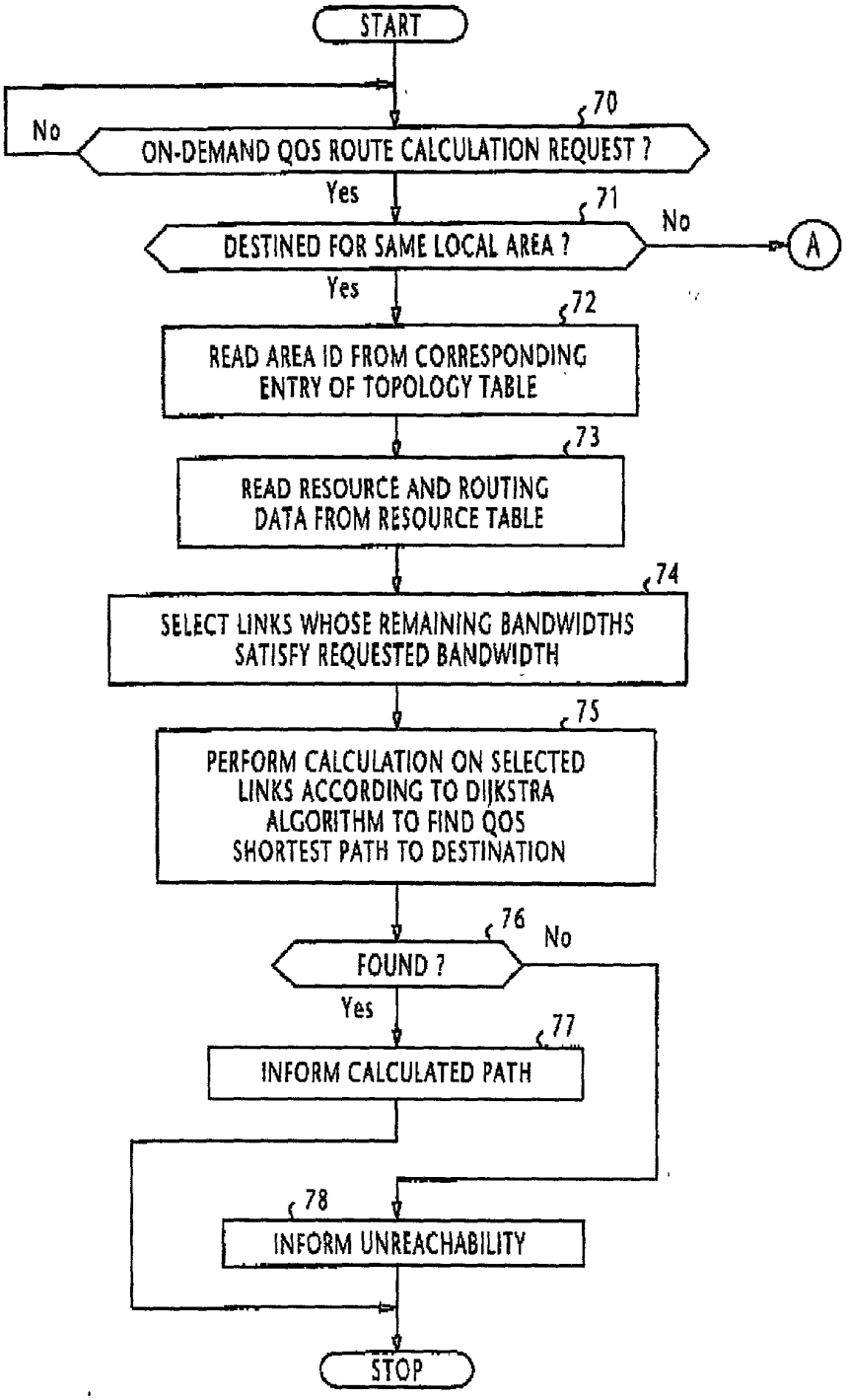
DESTINATION	ABR	HOP COUNT	AVAILABLE BANDWIDTH
NETWORK 60	ROUTER 61	3	30 Mbps
	ROUTER 62	3	10 Mbps

FIG. 4A


START
70
No
ON-DEMAND QOS ROUTE CALCULATION REQUEST ?
Yes
71
DESTINED FOR SAME LOCAL AREA ?
No
A
Yes
72
READ AREA ID FROM CORRESPONDING ENTRY OF TOPOLOGY TABLE
73
READ RESOURCE AND ROUTING DATA FROM RESOURCE TABLE
74
SELECT LINKS WHOSE REMAINING BANDWIDTHS SATISFY REQUESTED BANDWIDTH
75
PERFORM CALCULATION ON SELECTED LINKS ACCORDING TO DIJKSTRA ALGORITHM TO FIND QOS SHORTEST PATH TO DESTINATION
76
No
FOUND ?
Yes
77
INFORM CALCULATED PATH
78
INFORM UNREACHABILITY
STOP

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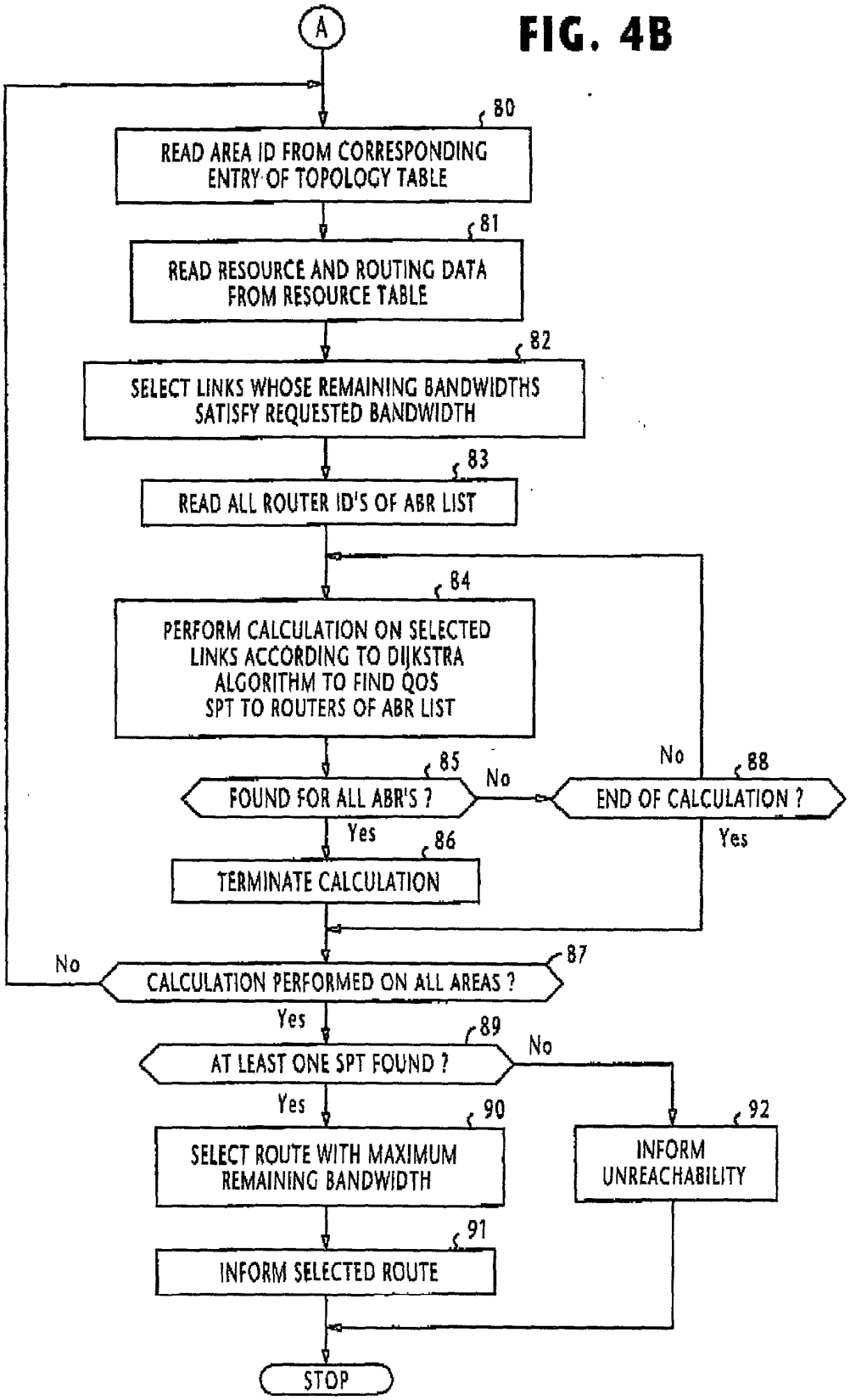
FIG. 4B